

2012 - Mazda6 - Transmission/ Transaxle

DTC P0713:00 [FS5A-EL]

DTC P0713:00	TFT sensor circuit high input
DETECTION CONDITION	• The TCM detects that input voltage from the TFT sensor is 4.66 V or more for 5 s when the following conditions are met. ▪ IAT sensor circuit malfunction: not stored ▪ Intake air temperature: -31 °C {-23 °F} or more ▪ Input voltage from the battery: 9 V or more Diagnostic support note • The MIL illuminates if the TCM detects the above malfunction condition in two consecutive drive cycles or in one drive cycle while the DTC for the same malfunction has been stored in the TCM. • The AT warning light illuminates. • PENDING CODE is available. • FREEZE FRAME DATA is available. • The DTC is stored in the TCM memory.
POSSIBLE CAUSE	• Coupler component connector or terminal malfunction • Short to power supply in wiring harness between TFT sensor and TCM terminal 2M • TFT sensor malfunction • TCM connector or terminal malfunction • Open circuit in wiring harness between TFT sensor and TCM terminal 2M • Open circuit in wiring harness between TFT sensor and TCM terminal 2O • TCM malfunction

3	INSPECT COUPLER COMPONENT CONNECTOR FOR POOR CONNECTION • Switch the ignition off. • Disconnect the coupler component connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion) • Is there any malfunction?	Yes	Repair or replace the terminal, then go to Step 8.
		No	Go to the next step.
4	INSPECT TFT SENSOR SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY • Switch the ignition to ON (Engine off). • Measure the voltage between coupler component terminal E (wiring harness-side) and body GND. • Is the voltage B+ ?	Yes	Repair or replace the wiring harness for a possible short to power supply, then go to Step 8.
		No	Go to the next step.
5	INSPECT TFT SENSOR • Inspect the TFT sensor. (See TRANSAXLE FLUID TEMPERATURE (TFT) SENSOR INSPECTION [FS5A-EL] .) • Is there any malfunction?	Yes	Replace the coupler component, then go to Step 8. (See TRANSAXLE FLUID TEMPERATURE (TFT) SENSOR REMOVAL/ INSTALLATION [FS5A-EL] .)
		No	Go to the next step.
6	INSPECT TCM CONNECTOR FOR POOR CONNECTION • Switch the ignition off. • Disconnect the TCM connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion) • Is there any malfunction?	Yes	Repair or replace the terminal, then go to Step 8.
		No	Go to the next step.
7	INSPECT TFT SENSOR CIRCUIT FOR OPEN CIRCUIT • Switch the ignition off. • Inspect for continuity between the following circuits: ▪ Coupler component terminal E (wiring harness-side) and TCM terminal 2M (wiring harness-side) ▪ Coupler component terminal H (wiring harness-side) and TCM	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit, then go to the next step.

	terminal 20 (wiring harness-side)		
	Is there continuity?		
8	VERIFY TROUBLESHOOTING OF DTC P0713:00 COMPLETED - Make sure to reconnect all the disconnected connectors. - Clear the DTC using the M-MDS. - Perform the following procedure to ensure that the DTC has been resolved: - Start the engine. - Idle the engine for 5 s or more. - Is the PENDING CODE same as the DTC present?	Yes	Replace the TCM, then go to the next step. (See TCM REMOVAL/ INSTALLATION [FS5A-EL] .)
		No	Go to the next step.
9	VERIFY NO DTCs ARE PRESENT - Perform the "Reading DTCs Procedure". (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [FS5A-EL] .) - Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [FS5A-EL] .)
		No	DTC troubleshooting completed.

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POSSIBLE CAUSE	• Coupler component connector or terminal malfunction • Short to power supply in wiring harness between TFT sensor and TCM terminal 2M • TFT sensor malfunction • TCM connector or terminal malfunction • Open circuit in wiring harness between TFT sensor and TCM terminal 2M • Open circuit in wiring harness between TFT sensor and TCM terminal 2O • TCM malfunction

3	INSPECT COUPLER COMPONENT CONNECTOR FOR POOR CONNECTION • Switch the ignition off. • Disconnect the coupler component connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion) • Is there any malfunction?	Yes	Repair or replace the terminal, then go to Step 8.
		No	Go to the next step.
4	INSPECT TFT SENSOR SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY • Switch the ignition to ON (Engine off). • Measure the voltage between coupler component terminal E (wiring harness-side) and body GND. • Is the voltage B+ ?	Yes	Repair or replace the wiring harness for a possible short to power supply, then go to Step 8.
		No	Go to the next step.
5	INSPECT TFT SENSOR • Inspect the TFT sensor. (See TRANSAXLE FLUID TEMPERATURE (TFT) SENSOR INSPECTION [FS5A-EL] .) • Is there any malfunction?	Yes	Replace the coupler component, then go to Step 8. (See TRANSAXLE FLUID TEMPERATURE (TFT) SENSOR REMOVAL/ INSTALLATION [FS5A-EL] .)
		No	Go to the next step.
6	INSPECT TCM CONNECTOR FOR POOR CONNECTION • Switch the ignition off. • Disconnect the TCM connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion) • Is there any malfunction?	Yes	Repair or replace the terminal, then go to Step 8.
		No	Go to the next step.
7	INSPECT TFT SENSOR CIRCUIT FOR OPEN CIRCUIT • Switch the ignition off. • Inspect for continuity between the following circuits: ▪ Coupler component terminal E (wiring harness-side) and TCM terminal 2M (wiring harness-side) ▪ Coupler component terminal H (wiring harness-side) and TCM	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit, then go to the next step.

	terminal 20 (wiring harness-side)		
	Is there continuity?		
8	VERIFY TROUBLESHOOTING OF DTC P0713:00 COMPLETED - Make sure to reconnect all the disconnected connectors. - Clear the DTC using the M-MDS. - Perform the following procedure to ensure that the DTC has been resolved: - Start the engine. - Idle the engine for 5 s or more. - Is the PENDING CODE same as the DTC present?	Yes	Replace the TCM, then go to the next step. (See TCM REMOVAL/ INSTALLATION [FS5A-EL] .)
		No	Go to the next step.
9	VERIFY NO DTCs ARE PRESENT - Perform the “Reading DTCs Procedure”. (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [FS5A-EL] .) - Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [FS5A-EL] .)
		No	DTC troubleshooting completed.